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2838

In re Application of:

Docket No.: 00862.022159

Seiji KUROKAMI, et al.

Application No.: 09/818,604

Examiner: R. Patel

Filed: March 28, 2001

Group Art Unit: 2838

For: POWER CONVERTING APPARATUS,
CONTROL METHOD THEREFOR, AND
SOLAR POWER GENERATION APPARATUS

Date: January 20, 2004
(Tuesday after Holiday)

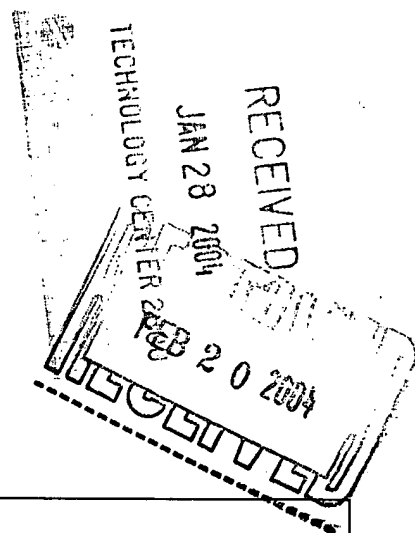
Mail Stop Non-Fee Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Transmitted herewith is a Response in the above-identified application.

☐ An additional fee is required.

The fee has been calculated as shown below



CLAIMS AS AMENDED						
	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NO. PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE	ADDITIONAL FEE
TOTAL CLAIMS	20	MINUS	21	= 0	x \$9 \$18	\$ 0.00
INDEP. CLAIMS	3	MINUS	4	= 0	x \$40 \$84	\$ 0.00
Fee for Multiple Dependent claims \$140°/\$280						
TOTAL ADDITIONAL FEE FOR THIS AMENDMENT---						\$ 0.00

☐ °Verified Statement claiming small entity status is enclosed, if not filed previously.

☐ A check in the amount of \$_____ is enclosed.

- ☐ Charge \$____ to Deposit Account No. 06-1205. A duplicate copy of this sheet is enclosed.
- ☒ Any prior general authorization to charge an issue fee under 37 C.F.R. 1.18 to Deposit Account No. 06-1205 is hereby revoked. The Commissioner is hereby authorized to charge any additional fees under 37 C.F.R. 1.16 and 1.17 which may be required during the entire pendency of this application, or to credit any overpayment, to Deposit Account No. 06-1205. A duplicate copy of this paper is enclosed.
- ☐ A check in the amount of \$____ to cover the fee for a ____ month extension is enclosed.
- ☐ A check in the amount of \$_____ to cover the Information Disclosure Statement fee is enclosed.
- ☒ Applicants' undersigned attorney may be reached in our Costa Mesa, California office by telephone at (714) 540-8700. All correspondence should continue to be directed to our address given below.

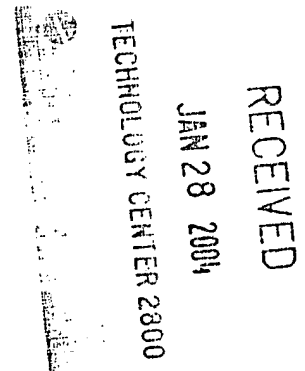
Respectfully submitted,


Attorney for Applicants

Registration No. 32622

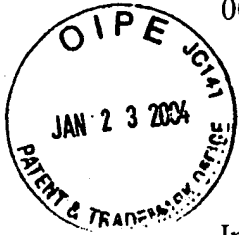
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CA_MAIN 76026 v 1



00862.022159

PATENT APPLICATION



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

SEIJI KUROKAMI, et al.

Application No.: 09/818,604

Filed: March 28, 2001

For: POWER CONVERTING
APPARATUS, CONTROL
METHOD THEREFOR, AND
SOLAR POWER
GENERATION APPARATUS

Examiner: Rajnikant B. Patel

Group Art Unit: 2838

January 20, 2004
(Tuesday after Holiday)

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P.O. Box 1450
Alexandria, VA 22313-1450

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RESPONSE TO OFFICE ACTION

Sir:

This application has been carefully reviewed in light of the Office Action dated October 17, 2003. Claims 1 to 20 are presented for examination, of which Claims 1, 17 and 20 are independent. Reconsideration and further examination are respectfully requested.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first-class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on:

January 20, 2004

(Date of Deposit)

Michael K. O'Neill (Reg. No. 32,622)

(Name of Attorney for Applicant)

Signature

January 20, 2004

Date of Signature

Initially, the Office Action states that this application does not qualify to be examined under the changes made to 35 U.S.C. § 102(e) by the American Inventors Protection Act of 1999 (AIPA) since it was not filed on or after November 29, 2000, or voluntarily published. However, since this application was filed on March 28, 2001, it is believed that this application should be examined in accordance with the changes made by the AIPA.

Claims 1, 17 and 20 were rejected under 35 U.S.C. § 102(e) over U.S. Patent No. 6,046,919 (Madenokouji). Claims 1 to 20 were rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 6,069,811 (Moriguchi) in combination with Madenokouji, and further in combination with U.S. Patent No. 6,111,767 (Handleman). The rejections are respectfully traversed.

The present invention relates to an apparatus capable of converting direct current power from a power supply to alternating current power that is supplied to a commercial power system. One feature of the present invention lies in a detector for detecting a ground fault of the power supply. Another feature lies in a controller that is used to vary an input voltage of a converter and/or an intermediate voltage between a converter and an inverter so as to control a potential ground of the power supply.

With specific reference to the claims, independent Claim 1 recites a power converting apparatus having a non-insulated converter and a non-insulated inverter to convert direct current power inputted from a power supply to alternating current power. The power conversion apparatus also supplies the alternating current power to a commercial power system which is grounded. The apparatus comprises a detector for

detecting a ground fault of the power supply and a controller for varying an input voltage of the converter and/or an intermediate voltage between the converter and the inverter so as to control a potential to ground of the power supply.

Independent Claims 17 and 20 are apparatus claims that correspond generally to independent Claim 1.

The applied art is not seen to disclose or suggest the features of independent Claim 1, 17 and 20, and in particular, is not seen to disclose or suggest at least the features of a detector for detecting a ground fault of the power supply and a controller for varying an input voltage of the converter and/or an intermediate voltage between the converter and the inverter so as to control a potential to ground of the power supply.

Madenokouji relates to a solar power generating device. The Office Action contends that Madenokouji recites a power converting apparatus that includes a detector and a controller. Madenokouji discloses detectors for detecting current (Fig. 1, elements 28 and 32) and voltage (Fig. 1, elements 30, 34, 36 and 38). Current detector 28 and voltage detector 30 detect the current and voltages output by solar panel 12 (column 9, line 15-22). Voltage detectors 34, 36 and 38 detect the voltage and phasing of the commercial power system (column 9, lines 8-15). Current detector 32 detects the current value of the electric power output to the commercial power system (column 9, lines 35-36). However, none of the detectors disclosed by Madenokouji is seen to detect a ground fault of the power supply.

Furthermore, Madenokouji's control means, microcomputer 14, is used to detect commercial power voltage and phasing and then change the phasing and frequency

of the output power to match up with the commercial power source (column 8, line 45; column 9, lines 8-15). In addition, microcomputer 14 controls a maximum power point tracking control (MPPT control) and drives relay coil 40A when it detects that the commercial power system has been cut (column 9, lines 15-35). However, Madenokouji is not seen to teach or suggest that microcomputer 14 can be used for varying an input voltage of the converter and/or an intermediate voltage between the converter and the inverter so as to control a potential to ground of the power supply.

Moriguchi relates to a DC power supply apparatus. Moriguchi teaches the use of a voltage detector 22 that provides a voltage-representative signal to voltage-boosting converter control circuit 24 (column 4, lines 12-18), as well as a current detector 26 that provides a phase-representative signal to voltage-boosting converter control circuit 24 (column 4, lines 19-26). However, none of the detectors taught by Moriguchi is seen to detect a ground fault of the power supply. In addition, Moriguchi is not seen to teach or suggest a controller for varying an input voltage of the converter and/or an intermediate voltage between the converter and the inverter so as to control a potential to ground of the power supply.

As such, neither Madenokouji nor Moriguchi is seen to disclose or suggest a detector for detecting a ground fault of the power supply and a controller for varying an input voltage of the converter and/or an intermediate voltage between the converter and the inverter so as to control a potential to ground of the power supply.

The remaining art applied against the claims, namely Handleman, is not seen to supply what is missing from Madenokouji and Moriguchi. Accordingly, based on

the foregoing remarks, independent Claims 1, 17 and 20 are believed to be allowable over the applied references.

The other claims in the application are each dependent from the independent claims and are believed to be allowable over the applied references for at least the same reasons. Because each dependent claim is deemed to define an additional aspect of the invention, however, the individual consideration of each on its own merits is respectfully requested.

No other matters being raised, it is believed that the entire application is fully in condition for allowance, and such action is courteously solicited.

Applicants' undersigned attorney may be reached in our Costa Mesa, California office at (714) 540-8700. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,


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